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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,147	08/18/2003	Eric R. Jensen	2229/134	3306
2101	7590	03/07/2006	EXAMINER	
BROMBERG & SUNSTEIN LLP 125 SUMMER STREET BOSTON, MA 02110-1618			NGUYEN, HOANG M	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,147

Applicant(s)

JENSEN ET AL.

Examiner

Hoang M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22, 25-48, 51-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22, 25-48 and 51-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Applicant's amendment dated February 02, 2006, has been fully considered.

Applicant has argued that the pressure regulator in Fenton is mounted at the exhaust, not at the inlet as claimed. The Examiner agrees and the rejection based on Fenton has been withdrawn. However, a new ground of rejection has been made based on the same primary reference Berger et al, in view of a new secondary reference, US 4410302 (Chiba et al). Chiba et al disclose an electromagnetic fuel pump which is inherently modulated by the control unit, and a pressure regulator including a venting cylinder 39 to regulate the pressure at the inlet of the pump, and to provide a return port 37 back to the tank if the pressure is too high. It would have been obvious to combine the references to have a pressure regulator in Berger et al as taught by Chiba et al for the purpose of regulating the fuel input in safer manner.

Please note the external combustion chamber is only in the preamble, not structurally claimed and therefore is given little weight. Even if said external combustion chamber is recited, that is not an allowable subject matter because Chiba et al discloses that it's well known to use his fuel pump in various types of combustion systems.

This Office Action has been made NON-FINAL.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

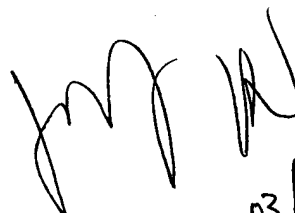
Claims 1-22, 25-48, 51-56, are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 5293853 (Berger et al) in view of US 4410302 (Chiba et al). Berger discloses fuel pump control system for controlling the speed of the pump 105 for controlling the flow into a combustion chamber. A controller is in signal communication with said pump 105 and using a pump characteristics map 110 to provide the exact control to said pump. Note column 2, lines 47-52, a signal U is applied to fuel pump 105, and the fuel pump 105 meters the exact quantity QK1 to the internal combustion engine. Berger et al does not disclose a pressure regulator and an external combustion engine. Chiba et al disclose an electromagnetic fuel pump which is inherently modulated by the control unit, and a pressure regulator including a venting cylinder 39 to regulate the pressure at the inlet of the pump, and to provide a return port 37 back to the tank if the pressure is too high. It would have been obvious to combine the references to have a pressure regulator in Berger et al as taught by Chiba et al for the purpose of regulating the fuel input in safer manner. Regarding claims 7-21, 22, 25-28, 30-48, 52-54, Berger et al discloses all the claimed subject matter as set forth above, but does not disclose different types of pumps, combustion engines (Stirling engine, gas turbine..etc..), signals, air/fuel ratio, filter..etc.... However, since it's well known in the art that different types of pumps, engines signals..etc.. can be used, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to elect different types of devices to be used with the fuel pump system in Berger et al for the purpose of achieving appropriate work output.

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



03/04/06

HOANG NGUYEN
PRIMARY EXAMINER
ART UNIT 3748

Hoang Minh Nguyen
3/4/2006